Extra Practice on systems

**On all problems, SHOW YOUR WORK and CIRCLE YOUR ANSWER!**

**Determine if the following points are a solution to the given system. (5 points each)**

1) (4, 5) 2) (–2, 3)

y = –2x + 13 x + y = 1

y = x – 3 2x – 4y = –16

Circle one Circle one

Yes or No Yes or No

3) **Graph** the system **and find the solution**:

y = 2x – 5 and x + y = 7. **(5 pts)**

**Solution: \_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

4) **Graph** the system **and find the solution**:

x = 4 and x + 2y = 6 **(5 pts)**

**Solution: \_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

5) Solve the following system using **sub-stitution. SHOW YOUR WORK. (6 pts)**

4x – 3y = 17

y = 2x – 7

6) Solve the following system using **sub-stitution. SHOW YOUR WORK. (6 pts)**

y = 3x

y = 4 – x

7) Use a **linear combination** to solve the  
 following system. **SHOW YOUR  
 WORK. (6 pts)**

2x + y = 4

x – y = 2

8) Use a **linear combination** to solve the  
 following system. **SHOW YOUR  
 WORK. (6 pts)**

2x – 2y = 2

–3x + 4y = 1

1. What is the solution to the system of  
    equations represented by the graph? **(4 pts)**

**Solution: \_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

**CIRCLE THE LETTER of the correct answer.  
(4 pts)**

10) Which ordered pair is the solution to the   
 system x + y = 8 and 2x – y = 4 ?

a) (2, 6) b) (–4, 12)

c) (5, 6) d) (4, 4)

11) How would you use **linear combina-**

**tion** to **eliminate** the **y variable**  in the  
 following system:

2x + 3y = 10

8x – 2y = 6

a) multiply the first equation by 4

b) multiply the first equation by –4

c) multiply the first by 2 and the

second by 3

d) multiply the first by 8 and the

second by –2

**CIRCLE THE LETTER of the correct answer.  
(4 pts)**

12) Solve the system of equations given by  
 x – 4y = 24 and 3x – 4y = 16.

a) (10, 3.5) b) (–4, –7)

c) (10, –3.5) d) (–4, 7)

13) Solve the system of equations.

5x – 2y = 25 5x + 3y = 5

a) (3, –5) b) (4, –5)

c) (, –4) d) (13, 20)

1. Solve the system of equations given

below.

5x + 3y = 3 3x + 4y = 15

a) (, ) b) (–3, 6)

c) (3, –4) d) (5, 0)

15) The sum of two numbers is 36. Twice the first number minus the second number is 6. Find the numbers.

a) (42, 6) b) (14, 22)

c) (30, 6) d) (10, 26)

**Write a system of linear equations that would model the following situation. Solve the system. Be sure to identify what variables represent. State your answer clearly. (6 pts)**

16) You are selling tickets at a high school football game. Student tickets cost $3 and general admission tickets cost $5. You sell 1115 tickets and collect $3955. How many of each type of ticket did you sell?

17) Your math teacher tells you that next week’s test is worth 100 points and contains 24 problems. Each word problem is worth 6 points and each multiple choice problem is worth 2 points. How many word problems and how many multiple choice problems are on the test?

18) Sally is given the following system of equations:

9*x* + 3*y* = 21

2*x* + *y* = 13

Sally solves in the following manner:

9*x* + 3*y* = 21

6x + 3y = 39

15*x* = 60

Sally then finishes with:



*x* = 4

Sally worked the problem incorrectly.

1. Explain what she did wrong, and correct her error(s). **(3 pts)**
2. What is the correct solution to the **system**? Be sure to write your answer as an ordered pair. **(3 pts)**

19) Solve the following system using any   
 method. **SHOW YOUR WORK! (5 pts)**

4x – 3y = –13

6x + y = –3

**Choose from the word bank below to fill in the blanks. (1 pt. each)**

Two or more linear equations relating the same 2 variables form a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of linear equations.

A solution of a system of linear equations in two variables is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (*x*, *y*) that satisfies both equations in the system.

The graph gives you a visual model of the solution. The solution to the system is the point where the two lines \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

To check your answer to the system, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the ordered pair into both

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to see if they are true.

**Word Bank**

intersect, system, equations,

ordered pair, substitute